## ABSTRACT

Linker arms for nanocrystal compounds and nanocrystals compounds of the following formula:

$$Y \longrightarrow R \longrightarrow Z \longrightarrow Z \longrightarrow X$$
 (I)

$$n \& p = 0-10$$
  
Z = O, CH2, or NH

wherein Y represents the attachment point to the nanocrystal and X represents the attachment point of an organic compound. R is a bond or is selected from the group consisting of: SH,  $O(CH_{2(n)}O)_nSH$ ,  $NH(CH_{2(n)}NH)SH$ ,  $S(CH_{2(n)}O)_nSH$ , and  $S(CH_{2(n)}S)SH$ . n is 1-10, with S being attached to the nanocrystal.  $R_2$  is a bond or selected from the group consisting of carbonyl, NH, S, CONH, COO, S,  $C_{1-10}$  alkyl, carbamate, and thiocarbamate. When n and p are 1 or more, the resulting carbon or carbon chain may be substituted. Preferably, z is O. Preferably n and p are 1-5.

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